

I. IN THE CLAIMS

Please make the following amendments to the claims as indicated below. No new matter has been added.

1. (original) An exercise machine comprising:
 - (a) a frame;
 - (b) a pair of laterally spaced apart foot pedals, each pedal coupled to the frame by a respective articulated linkage comprising a generally vertical first linkage pivotally coupled to the frame and a generally horizontal second linkage pivotally coupled to both the first linkage and the respective foot pedal;
 - (c) a crank assembly coupled to both of the first linkages such that the first linkages move with an alternating reciprocating action;
 - (d) motor means coupled to the articulated linkage of each foot pedal for regulating movement thereof.
2. (original) The exercise machine of claim 1 wherein the second linkage comprises a first arm and a second arm, each independently pivotally coupled to the foot pedal and the first linkage.
3. (currently amended) The exercise machine of claim 2 wherein the first arm and the second ~~linkage~~ arm[s] of the second linkage are of unequal length.
4. (original) The exercise machine of claim 3 wherein the pivotal couplings of the first and second linkage arms are such that the foot pedal is progressively inclined as the foot pedal travels from an upper, forward position to a lower, rearward position.
5. (original) The exercise machine of claim 1 further comprising means for biasing the foot pedals to a starting position.
6. (original) The exercise machine of claim 5 wherein the biasing means comprises a spring.
7. (original) The exercise machine of claim 1 wherein said motor means is coupled to the crank assembly for driving the first linkages with an alternating reciprocating action.
8. (amended) The exercise machine of claim 7 wherein the means for regulating movement comprises a flywheel for further regulating movement of the first linkages.
9. (original) The exercise machine of claim 8 wherein the motor means is selectively coupled to the flywheel to drive the first linkages during only a portion of an exercise routine.

10. (thrice amended) An exercise device, comprising:

a frame having a base portion adapted to be supported by a floor;

first and second reciprocating members, each reciprocating member having a first end and a second end;

a rotating member supported by said frame and defining an axis;

means for attaching said second ends of said first and second reciprocating members to said rotating member so that rotation of said rotating member results in rotation of said second ends of said first and second reciprocating members in a generally substantially circular path about said axis while a portion of each of said first and second reciprocating members distal said second end of each said first and second reciprocating member moves in a reciprocating pattern;

a first foot supporting linkage assembly pivotally connected to said first reciprocating member proximate said first end of said first reciprocating member, the first foot supporting linkage assembly comprising a first foot support; and

a second foot supporting linkage assembly pivotally connected to said second reciprocating member proximate said first end of said second reciprocating member, the second foot supporting linkage assembly comprising a second foot support;

wherein each of the first foot support and the second foot support is movable to circumnavigate a generally elliptical path.

11.(amended) The exercise device of claim 10, wherein said means comprises:

a first element attached at one end to said rotating member proximate said axis, and at its other end to said second end of said first reciprocating member; and

a second element attached at one end to said rotating member proximate said axis, and at its other end to said second end of said second reciprocating member.

12. The exercise device of claim 10, further comprising:

a flywheel rotatably mounted on said frame; and

a means for connecting said flywheel to said rotating member so that rotation of said rotating member causes rotation of said flywheel.

13.(twice amended) An exercising device, comprising:

a frame having a base portion adapted to be supported by a floor;

first and second reciprocating members, each reciprocating member having a first end and a second end;

a rotating member supported by said frame and defining an axis;

means for attaching said second ends of said first and second reciprocating members to said rotating member so that rotation of said rotating member results in rotation of said second ends of said first and second reciprocating members in a substantially circular path about said axis while a portion of said first and second reciprocating members distal said second end of each said first and second reciprocating member moves in a reciprocating pattern;

first and second foot supporting linkage assemblies, said first foot supporting linkage assembly pivotally connected proximate one end to said first reciprocating member proximate said first end of said first reciprocating member, said second foot supporting linkage assembly pivotally connected proximate one end to said second reciprocating member proximate said first end of said second reciprocating member, each said foot supporting linkage assembly being pivotally attached at its other end to said frame distally from said rotating member,

wherein each foot of the user is movable to circumnavigate a generally elliptical path.

14.(amended) The exercise device of claim 13, wherein said means comprises:

a first element attached at one end to said rotating member proximate said axis, and at its other end to said second end of said first reciprocating member; and

a second element attached at one end to said rotating member proximate said axis, and at its other end to said second end of said second reciprocating member.

15 The exercise device of claim 13, further comprising a flywheel rotatably mounted on said frame; and a means for connecting said flywheel to said rotating member so that rotation of said rotating member causes rotation of said flywheel.

16.(thrice amended) An exercise apparatus, comprising:

a frame designed to rest upon a floor surface;

a first crank and a second crank, wherein each said crank is mounted on the frame and rotatable relative thereto about a crank axis;

a first rocker link and a second rocker link, wherein each said rocker link is mounted on the frame and pivotal relative thereto about a pivot axis at a first location;

a first rigid member having a first portion movably connected to the first crank and rotatable together therewith about the crank axis, and a second portion movably connected to the first rocker link at a first connection distance from the pivot axis and movable in reciprocal fashion relative to the frame;

a second rigid member having a first portion movably connected to the second crank and rotatable together therewith about the crank axis, and a second portion movably

connected to the second rocker link at the first connection distance from the pivot axis and movable in reciprocal fashion relative to the frame;

a first foot support connected to a second location on the first rocker link at a relatively greater second distance from the pivot axis; and

a second foot support connected to a second location on the second rocker link at the second distance from the pivot axis, wherein each said foot support is movable to circumnavigate a generally elliptical path.

17. The exercise device of claim 16, wherein the frame supports at least one roller which carries the weight of a person standing on the apparatus.

18. (cancelled)

19. (amended) The exercise device of claim 16, wherein each said foot support pivots relative to a respective rocker link.

20. (thrice amended) An exercise apparatus, comprising:

a frame designed to rest upon a floor surface;

a crank mounted [[an]] on the frame and rotatable about a crank axis relative to the frame;

a left foot support and a right foot support, each said foot support supported by the frame and movable through to circumnavigate a generally elliptical path of motion relative to the frame;

at least one left link movably interconnected between the crank and the left foot support, wherein the at least one left link includes a rigid member having a first position which rotates together with the crank about the crank axis and having a second portion which moves in a reciprocating path;

at least one right link movably interconnected between the crank and the right foot support wherein the at least one right link includes a rigid member having a first portion which rotates together with the crank about the crank axis and having a second portion which moves in a reciprocating path; and

a resistance device operable to resist rotation of the crank.

21. The exercise device of claim 20, wherein the frame supports at least one roller which carries the weight of a person standing on the apparatus.

22. The exercise device of claim 20, wherein the right foot support is connected to the rigid member of the at least one right link, proximate the second portion thereof.

23. The exercise device of claim 20, wherein the at least one right link includes a rocker link rotatably interconnected between the frame and the right foot support.

24. (twice amended) An exercise apparatus, comprising:

a frame designed to rest upon a floor surface;

a crank mounted on the frame and rotatable about a crank axis relative to the frame;

a left foot support and a right foot support, each said foot support movable to circumnavigate a variable path of motion relative to the frame;

a left link movably interconnected between the crank and a second left link, the left foot support movably connected to a discrete portion of the second left link, wherein the at least one left link includes a rigid member having a first portion which rotates together with the crank about the crank axis and having a second portion which moves in a reciprocating path;

a right link movably interconnected between the crank and a second right link, the right foot support movably connected to a discrete portion of the second right link, wherein the at least one right link includes a rigid member having a first portion which rotates together with the crank about the crank axis and having a second portion which moves in a reciprocating path; and

a resistance device operable to resist rotation of the crank.

25. (twice amended) The exercise device of claim 24, wherein the at least one right link includes a rocker link rotatably interconnected between the frame[,] and the right foot support.

26. (twice amended) An exercise apparatus, comprising:

a frame designed to rest upon a floor surface;

a right crank and a left crank, wherein each said crank is mounted on the frame and rotatable about a crank axis relative to the frame;

a right first link and a left first link, wherein each said first link is movably connected to the frame;

a right second link and a left second link, wherein each said second link is movably connected to a respective first link;

a right foot support and a left foot support, wherein each said foot support is connected to a respective second link and movable to circumnavigate multiple paths of motion relative to the frame;

a right third link movably interconnected between the right crank and one of the right first link and the right second link;

a left third link movably interconnected between the left crank and one of the left first link and the left second link; and

a resistance device operable to resist rotation of each said crank.

27. (amended) The exercise device of claim 26, wherein each said third link is movably connected to a respective first link, and rotation of each said crank causes each said first link to move in reciprocating fashion relative to the frame.

28. (twice amended) An exercise apparatus, comprising:

a frame designed to rest upon a floor surface; and

on each side of the frame:

- (a) a first rigid member, connected to the frame, and movable in a first direction;
- (b) a second rigid member, connected to the first rigid member, and movable relative to the first rigid member in a second, generally orthogonal direction;
- (c) a crank rotatably mounted on the frame and linked to one of the first rigid member and the second rigid member in such a manner that rotation of the crank moves said one of the first rigid member and the second rigid member in its respective direction;
- (d) a foot support connected to the other of the first rigid member and the second rigid member; and
- (e) a resistance device operably connected to at least one said crank to resist rotation of said crank.

29. (amended) The exercise device of claim 28, wherein on each side of the apparatus, a third rigid member is interconnected between the crank and the first rigid member, so that rotation of the crank causes the first rigid member to move in reciprocating fashion relative to the frame.

30. (amended) The exercise device of claim 28, wherein each said foot support is constrained to occupy a substantially constant orientation during exercise motion.

31. (twice amended) An exercise apparatus, comprising:

a frame designed to rest upon a floor surface;

a lockable first crank and a second crank, wherein each said crank is mounted on the frame and rotatable relative thereto about a crank axis;

a first rocker link and a second rocker link, wherein each said rocker link is mounted on the frame and pivotal relative thereto about a pivot axis;

a first rigid member having a first portion movably connected to the first crank and rotatable together therewith about the crank axis, and a second portion movably connected to the first rocker link at a first distance from the pivot axis and movable in reciprocal fashion relative to the frame;

a second rigid member having a first portion movably connected to the second crank and rotatable together therewith about the crank axis, and a second portion movably connected to the second rocker link at the first distance from the pivot axis and movable in reciprocal fashion relative to the frame; and

a first foot support and a second foot support, wherein each said foot support is connected to a respective said rocker link at a relatively greater, second distance from the pivot axis for movement to circumnavigate a smooth, curved path.

32. (twice amended) An exercise apparatus, comprising:

a frame designed to rest upon a floor surface;

a first crank and a second crank, wherein each said crank is mounted on the frame and rotatable relative thereto about a crank axis;

a first rocker link and a second rocker link, wherein each said rocker link is mounted on the frame and pivotal relative thereto about a pivot axis;

a first rigid member having a first portion movably connected to the first crank and rotatable together therewith about the crank axis, and a second portion movably connected to the first rocker link at a first distance, from the pivot axis and movable in reciprocal fashion relative to the frame;

a second rigid member having a first portion movably, connected to the second crank and rotatable together therewith about the crank axis, and a second portion movably connected to the second rocker link at the first distance from the pivot axis and movable in reciprocal fashion relative to the frame; and

a first foot support and a second foot support wherein each said foot support is connected to a respective said rocker link at a relatively greater, second distance from the pivot axis for movement ~~through~~ to circumnavigate a generally ovate path.

33. (twice amended) An exercise apparatus, comprising:

a frame designed to rest upon a floor surface;

left and right first links mounted on the frame and pivotal relative thereto about a pivot axis;

left and right second links pivotally connected to respective said first links to define respective left and right linkage assemblies;

left and right foot supports mounted on respective said assemblies;

lockable left and right cranks mounted on the frame and rotatable relative thereto about a crank axis, wherein said cranks are linked to respective assemblies in a manner that accommodates movement of said foot supports through to circumnavigate respective, generally ovate paths.

34. (twice amended) An exercise apparatus, comprising:

a frame designed to rest upon a floor surface;

left and right first links mounted on the frame and pivotal relative thereto about a pivot axis;

left and right: second links pivotally connected to respective said first links to define respective left and right linkage assemblies;

left and right foot supports mounted on respective said assemblies;

lockable left and right cranks mounted on the frame and rotatable relative thereto about a crank axis, wherein said cranks are linked to respective assemblies in a manner that establishes an envelope of motion for respective said foot supports.

35. An exercise apparatus, comprising:

a frame designed to rest upon a floor surface;

left and right first links mounted on the frame and pivotal relative thereto about a pivot axis;

left and right second links pivotally connected to respective said first links to define respective left and right, linkage assemblies;

left and right foot supports mounted on respective said assemblies;

left and right cranks mounted on the frame and rotatable relative thereto about a crank axis, wherein said cranks are linked to respective assemblies in a manner that dictates movement of said foot supports in a first direction while accommodating user determined movement of said foot supports in a generally perpendicular, second direction.